

### **REMARKS**

Claims 1-3 have been amended to more particularly define Applicants' invention. As amended, the claims are supported by the specification and the original claims and add no new matter, as explained below. New claims 17-24 have been added. Claims 1-24 are pending.

#### **A. The Amendment**

Paragraphs [0046] and [0050] of the specification have been amended to add the compound (IA). This amendment does not introduce new matter because the compound (IA), and the thereof, was disclosed in the originally filed specification. See, e.g., paragraph [0050] on page 16 of the original specification, and the original Figures 1-5. Paragraph [0046] as amended now includes the terms "thioacetyl" and "alpha-acyloxy-benzyl." It is submitted that no new matter has been introduced. These terms merely describe, respectively, "acylthiomethyl" and "acyloxy-alpha-benzyl" (which were introduced in the original application, as filed), using better nomenclature.

Formulae of structures (V) and (VII) (claims 3, 18, 20, and 23) do not introduce new matter but merely correct the informalities which were present in the formulae when originally filed.

#### **B. Rejections under 35 U.S.C. § 112, First and Second Paragraphs**

The rejection of claims 1-3 under 35 U.S.C. § 112, first and second paragraphs, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, and/or for alleged lack of

enablement, and/or for alleged deficiencies of written description, are respectfully traversed.

With regard to structure (VII) in claim 2 (item 1 on page 3 of the Office Action), where the Examiner stated that “Me” is unclear because it can mean either “methyl” or “metal,” the issue is moot since the “Me” has been changed to “CH<sub>3</sub>” in the structure (VII). It is submitted that in the context of the present invention the abbreviation “Me” clearly means “methyl.” There is no place for metals here, and none are mentioned anywhere in the specification. The Examiner is correct that at times “Me” is used to signify a metal. However, usually, if “metal” is meant, it is so specified, as evidenced by every reference provided by the Examiner on this issue. Those skilled in the art will immediately recognize “Me” as “methyl,” particularly in organic chemistry-related publications, unless clearly specified otherwise.

With regard to “ammonium cations” (item 2 on page 3 of the Office Action), it is respectfully submitted that the issue is moot since this limitation in claim 1 has been changed into singular.

With regard to the term “acylthiomethyl” (item 2 on page 3 of the Office Action), this term has been changed to “thioacetyl.” It is submitted that “thioacetyl” correctly describes the functional group intended by the Applicants. The Examiner’s attention is directed to the IUPAC nomenclature Rules C-541.2 (showing thioacetic O-acid) and C-543.4 (demonstrating thioacetyl chloride). A copy of each rule is attached for the Examiner’s easy reference. In view of the IUPAC rules of nomenclature, it is submitted that using the term “thioacetyl” is appropriate, and the specification and claim 1 were amended accordingly.

With regard to the term “acyloxy-alpha-benzyl” (item 2 on page 3 of the Office Action), this term has been changed to alpha-acyloxy-benzyl, to conform to the IUPAC Rule C-463.3 which states, in the pertinent part:

“463.3 - Ester groups in compounds  $R^1-CO-OR^2$  are named ... (b) by use of a prefix "acyloxy-" for the group  $R^1-CO-O-...$ ”

With regard to the definition of  $R_3$  in claim 2 (item 4 on page 4 of the Office Action), it is submitted that the term “linker” is clearly defined in the original specification and, thus, is definite. The specification states (paragraph [0046], lines 1-2 on page 14):

“linker  $R_3$  serves the purpose of attaching the fluorescent donor to the cephalosporin phenol ether derived backbone.”

As one can see, the “linker” is defined by its function. Combining that with the exemplary list of the moieties that can be employed as the linker, it is submitted that those having ordinary skill in the art will clearly understand what the linker is and what the compounds (comprising the linker) are that the Applicants are describing and claiming as their invention.

With regard to formula (V) in claim 2 (item 4, paragraph 3 on page 4 of the Office Action), the issue is moot since claim 2 has been amended to present this structure as a neutral moiety. Likewise, claim 3 (item 4, paragraph 1 on page 5 of the Office Action) has been amended to delete the structure  $--N^+R_2(CH_2)_n$ .

With regard to the rejection of claim 4, under 35 U.S.C. 112, first paragraph (item 4, paragraph 2 on page 5 of the Office Action), the Applicants amended the specification and specifically teach the use of the compound IA claimed in claim 4 for the same purposes as the compound I claimed in claim 1.

With regard to the variable  $n = 1-4$  in claim 1 (item 1 on page 6 of the Office Action), the new matter rejection is rendered moot since the limitation “and  $n$  is from 1-4” has been deleted from claim 1.

With regard to structure (VI) in claim 2 (item 2 on page 6 of the Office Action), the Applicants respectfully point out that even though the  $R'$  variable did not appear in the original specification, the structure (VI), as amended, including the variable  $R'$ , is described in the original specification. See paragraph [0053] on page 17 that teaches “fluorosalicylate ether.” Those having ordinary skill in the art will understand that the structure (VI) depicts a fluorosalicylate ether. Thus, no new matter has been presented when claim 2 was amended.

For the above-discussed reasons, it is respectfully submitted that the present claims are clear and unambiguous. Accordingly, reconsideration and withdrawal of the rejection of claims 1-3 under 35 U.S.C. 112, first and second paragraphs, are respectfully requested.

**C. Rejection Under 35 U.S.C. § 102(b)**

Claim 1 has been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Quante et. al. (U.S. Patent No. 5,338,843) (page 2, first paragraph of the Office Action). This rejection is respectfully traversed. Claim 1 requires “a donor fluorescent moiety.” Quante et al. describe fluorogenic molecules, but do not specifically teach that their compounds contain a donor fluorescent moiety  $Z$  recited in claim 1.

To satisfy a definition of the term “donor fluorescent moiety” required by claim 1, Quante et al. must teach either coumarin or a coumarin related dye bonded to the

cephalosporin moiety, since that is how this term is defined by the paragraph [0032] specification, as noticed by the Examiner.

The Examiner asserted that coumarin is shown by the compound of claim 4 in Quate et al. The Examiner is mistaken. Coumarin, of course, is 1,2-benzopyrone which is not disclosed by Quante et al.; instead, a derivative of coumarin is disclosed. And there is no teaching in Quante et al. that this derivative is a coumarin-related dye.

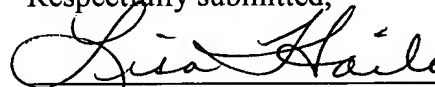
Thus, Quante et al. fail to teach a compound having either coumarin or a coumarin related dye connected to the cephalosporin moiety. Consequently, there limitation of the donor fluorescent moiety Z recited by claim 1 is not met. Accordingly, claim 1 is patentably distinguishable over Quante et al. Reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b) are respectfully requested.

**CONCLUSION**

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved, the Examiner is requested to contact the undersigned at the telephone number given below so that a prompt disposition of this application can be achieved.

Date: June 15, 2004

Respectfully submitted,



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